

Application No. PA 1999 01044, filed July 21, 1999, the contents of which is incorporated herein by reference in its entirety.

In the Claims

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Please cancel Claims 1-35.

Please add the following claims.

36. (New) A method for controlling the temperature of a biological specimen in indirect contact with a solid support member by using induction heating, said specimen being fixed to a carrier or said specimen being in liquid form in contact with a carrier onto which capture probes for capturing said specimen are fixed, and said carrier being removably placed in, on, or under said support member, said solid support member includes a cartridge for a carrier or a cover plate for a carrier and comprising a conducting material, said conducting material being in contact with a layer of heat conducting material, which said heat conducting material is in contact with the specimen, and said method comprising a step of subjecting said solid support to an oscillating magnetic field.
37. (New) A method according to claim 36, wherein said solid support member includes a cartridge having a chamber encompassed by a cartridge wall, said carrier carrying said specimen or said capture probes being placed in said chamber and said chamber being subjected to a magnetic field, said chamber includes at least one access opening for introducing the carrier, and for passing a processing fluid into and out of the chamber.
38. (New) A method according to claim 37 wherein said conducting material includes the form of a solid piece of conducting material placed on the inner side of said cartridge wall, or the form of one or more solid pieces or particles of conducting material incorporated in the wall of said cartridge.

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39. (New) A method according to claim 37, wherein said carrier includes a microscope slide, said cartridge comprising a chamber, and at least one access opening for introducing and withdrawing said slide, and having at least one opening for passing a processing fluid into and out of the chamber, said microscope slide is placed in said chamber, and bears said specimen or said capture probes.
40. (New) A method according to claim 36, wherein said solid support member includes a cover plate for a microscope slide, said cover plate comprising an electric conducting material, said specimen or said capture probes being fixed onto said microscope slide and placed between said cover plate and said slide when subjecting said solid support to an oscillating magnetic field.
41. (New) A method according to claim 36, wherein the electrically conducting material includes a metal.
42. (New) A method according to claim 41, wherein said metal is selected from a group consisting of iron, carbon steel, stainless steel, brass, copper, aluminum, silver, gold, platinum, nickel, zinc, pewter and alloys thereof.
43. (New) A method according to claim 36, wherein the conducting material is in the form of one or more plates, having a length, a width, and a thickness, said length and said width being at least ten times the thickness.
44. (New) A method according to claim 36, wherein the electrically conducting material is in the form of powder incorporated in a polymer material, the amount of powder being sufficiently high to raise the temperature of the specimen when the solid support is subjected to the oscillating magnetic field.
45. (New) A method according to claim 44, wherein said specimen is in the form of a solid specimen, preferably a tissue section or a section of cell blocks.

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46. (New) A method according to claim 36, wherein said solid support includes an amount of electrically conducting material sufficiently high to raise the temperature of the specimen when the solid support is subjected to the oscillating magnetic field.
47. (New) A method according to claim 36, wherein said magnetic field is generated by use of an electromagnetic inductor having an induction coil and a power supply, and directing alternating current through said coil.
48. (New) A method according to claim 47, wherein said power supply includes an alternating current power supply.
49. (New) A method according to claim 47, wherein said alternating current includes a frequency in the range of between 1 Hz and 500 kHz.
50. (New) A method according to claim 47, wherein alternating current is delivered through said coil in an amount of power up to about 100 W.
51. (New) A method according to claim 36, comprising a step of heating the specimen to a temperature in the range of between 25 and 110 °C.
52. (New) A method according to claim 36, wherein the specimen is heated and maintained at a constant temperature for a period in the range of between one minute and up to one week.
53. (New) A method according to claim 36, wherein the specimen is dried or fixed or both at an elevated temperature.

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54. (New) A method according to claim 36, wherein the specimen is subjected to a reaction step at an elevated temperature, said reaction step includes one or more of the steps capturing the specimen, baking the specimen, exposing the specimen to antigen retrieval, denaturing the specimen, hybridizing the specimen, dewaxing the specimen and washing the specimen.
55. (New) A method for carrying out an automatic or semi-automatic assay of one or more specimens each fixed on a microscope slide, comprising the steps of:
- i) placing the microscope slide in a cartridge comprising a chamber encompassed by a cartridge wall having an inner side, said cartridge comprising an electrically conducting material in the form of a solid piece of conducting material placed on the inner side of said cartridge wall, or in the form of one or more solid pieces or particles of conducting material incorporated in the wall of said cartridge; and
 - ii) placing the cartridge in an induction coil and sending alternating current through said coil to generate a magnetic field.
56. (New) A method according to claim 55 including an automatic or semi-automatic assay of two or more specimens, comprising the additional steps of:
- iii) placing each microscope slide individually in a cartridge including a chamber encompassed by a cartridge wall, said cartridge comprising an electrically conducting material in the form of a solid piece of conducting material placed on the inner side of said cartridge wall, or in the form of one or more solid pieces or particles of conducting material incorporated in the wall of said cartridge; and
 - iv) placing each cartridge individually in an induction coil and sending alternating current through said coil to generate a magnetic field.
57. (New) A solid support member in combination with a carrier for a specimen or capturing probes for a specimen for testing or treating a specimen of biological material, said support member comprising an electrically conducting material on the surface turning against the side of the carrier carrying the specimen.

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58. (New) A solid support member in combination with a carrier according to claim 57, said support member being at least partly of a polymer material selected from a group consisting of polystyrene, polyethylene, polyurethane, polyethylene terephthalates, polyvinyl acetate, polyvinyl chloride, polyvinyl-pyrrolidone, polyacrylonitrile, polymethyl-methacrylate, polytetrafluoroethylene, polycarbonate, poly-4-methyl-pentylene, polyester, polystyrene polypropylene, cellulose, nitro-cellulose, starch, polysaccharides, natural rubber, butyl rubber, styrene butadiene rubber, silicone rubber and copolymers and mixtures thereof.
59. (New) A solid support member in combination with a carrier according to claim 58, wherein an electrically conducting material is incorporated into the polymer material of the support member.
60. (New) A solid support member in combination with a carrier according to claim 59, wherein the electrically conducting material is in the form of powder incorporated in the polymer material, the amount of powder and the particle size of the powder being sufficiently high to provide the material with electrically conducting properties.
61. (New) A solid support member in combination with a carrier according to claim 57, wherein the electrically conducting material includes a metal.
62. (New) A solid support member in combination with a carrier of claim 61, wherein said metal is selected from a group consisting of iron, carbon steel, stainless steel, brass, copper, aluminum, silver, gold, platinum, nickel, zinc, pewter and alloys thereof.
63. (New) A solid support member in combination with a carrier according to claim 57, wherein the electrically conducting material is in the form of one or more plates, having a length a width and a thickness, said length and said width being at least ten times the thickness.

64. (New) A solid support member in combination with a carrier according to claim 57, wherein said solid support includes between 10 and 100,000 mg of an electrically conducting material.
65. (New) A solid support member in combination with a carrier according to claim 57, wherein the support member includes a cover plate for a microscope slide or a cartridge for a microscope slide.
66. (New) A solid support member in combination with a carrier according to claim 65, wherein said solid support member is a cartridge including a chamber for receiving the carrier with the specimen or the probes for a specimen, and having at least one access opening for introducing the carrier, and for passing a processing fluid into and out of the chamber, said conducting material being in the form of a solid piece of conducting material placed on the inner side of said cartridge wall, or in the form of one or more solid pieces of particles of conducting material incorporated in the wall of said cartridge.
67. (New) A solid support member in combination with a carrier according to claim 66, wherein said conducting material being in the form of a solid piece of electrically conducting material placed on the inner side of said cartridge wall and said cartridge wall includes an opening allowing direct access to the solid piece of electrically conducting material.
68. (New) A solid support member in combination with a carrier according to claim 65, wherein said carrier includes a microscope slide.
69. (New) A solid support member in combination with a carrier and an electromagnetic inductor, said support member being a support member according to claim 57 and said electromagnetic inductor being able to generate a magnetic field.

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